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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PF-0590 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/22082	International filing date (day/month/year) 23 September 1999 (23.09.1999)	Priority date (day/month/year) 25 September 1998 (25.09.1998)
International Patent Classification (IPC) or national classification and IPC IPC(7): C12N 1/20; C07K 1/00; C07H 21/04; C12P 21/06; A16K 38/00 and US Cl.: 530/350; 536/23.5; 435/69.1, 252.3; 514/2		
Applicant INCYTE GENOMICS, INC.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>6</u> sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input checked="" type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input checked="" type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 18 April 2000 (18.04.2000)	Date of completion of this report 04 October 2001 (04.10.2001)	
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Michael T Brannock Telephone No. 703 308-0196	

Form PCT/IPEA/409 (cover sheet)(July 1998)

**I. Basis of the report**

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed.
- ☒ the description:  
pages 1-63 \_\_\_\_\_ as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims:  
pages 64 and 65 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the drawings:  
pages 1-6 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the sequence listing part of the description:  
pages 1-11 \_\_\_\_\_, as originally filed  
pages NONE \_\_\_\_\_, filed with the demand  
pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☒ contained in the international application in printed form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/22082

## III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The question whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

- ☐ the entire international application,  
☒ claims Nos. 17 and 18

because:

- ☐ the said international application, or the said claim Nos. \_\_\_\_\_ relate to the following subject matter which does not require international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_ are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for said claims Nos. 17 and 18

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

- ☐ the written form has not been furnished or does not comply with the standard.  
☐ the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>none</u>	YES
	Claims <u>1-16, 19 and 20</u>	NO
Inventive Step (IS)	Claims <u>none</u>	YES
	Claims <u>1-16, 19 and 20</u>	NO
Industrial Applicability (IA)	Claims <u>1-16, 19 and 20</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS (Rule 70.7)**

Claims 1-16, 19 and 20 lack novelty under PCT Article 33(2) as being anticipated by WORLEY et al. (WO 98/40407).

WORLEY et al., disclose a polypeptide comprising a fragment of SEQ ID NO: 1, see Fig 1 wherein the fragment QPIF (amino acid positions 4-7) is identical to positions 7-10 of the instant SEQ ID NO: 1. WORLEY et al., also provide nucleic acids encoding same (such nucleic acid comprising a fragment of SEQ ID NO: 5, wherein a fragment could be as few as 1 base pair), methods of detecting nucleic acids (e.g. page 8), and producing polypeptides (e.g. page 10-11) wherein such methods necessarily involve amplification of the nucleic acid (claim 8), i.e. the plasmids must be propagated (amplified), antibodies (page 24), and such polypeptide fragments useful in pharmaceutical compositions for the treatment of abnormal synaptic activation, see page 3.

Claims 3-6, 9, 10 lack novelty under PCT Article 33(2) as being anticipated by LAMERDIN et al., EMBL Accession No. AC002985. Although a sequence alignment was not provided with the International Search Report, LAMERDIN et al. disclose an isolated polynucleotide which appears to comprise fragments of SEQ ID NO: 1.

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

The description is objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 5 because it fails to adequately enable practice of the claimed invention because: The description provides no guidance as to how to treat any particular disease with the claimed polypeptides and polynucleotides.

Claim 19 and 20 are objected to as lacking clarity under PCT Rule 66.2(a)(v) because practice of the claimed invention is not enabled as required under PCT Rule 5.1(a) for the reasons set forth in the immediately preceding paragraph.

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 24 July 2000 (24.07.00)	
International application No. PCT/US99/22082	Applicant's or agent's file reference PF-0590 PCT
International filing date (day/month/year) 23 September 1999 (23.09.99)	Priority date (day/month/year) 25 September 1998 (25.09.98)
Applicant YUE, Henry et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
18 April 2000 (18.04.00)

☐ in a notice effecting later election filed with the International Bureau on:  
\_\_\_\_\_

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Jean-Marie McAdams

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

BILLINGS, Lucy, J.  
Incyte Genomics, Inc.  
3160 Porter Drive  
Palo Alto, CA 94304  
ETATS-UNIS D'AMERIQUE

<b>Date of mailing</b> (day/month/year) 24 July 2000 (24.07.00)	<b>IMPORTANT NOTIFICATION</b>
<b>Applicant's or agent's file reference</b> PF-0590 PCT	
<b>International application No.</b> PCT/US99/22082	<b>International filing date</b> (day/month/year) 23 September 1999 (23.09.99)

1. The following indications appeared on record concerning:	
<input checked="" type="checkbox"/> the applicant	<input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative
<b>Name and Address</b> INCYTE PHARMACEUTICALS, INC. 3174 Porter Drive Palo Alto, CA 94304 United States of America	<b>State of Nationality</b> US
	<b>State of Residence</b> US
	<b>Telephone No.</b>
	<b>Facsimile No.</b>
<b>Teleprinter No.</b>	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:	
<input type="checkbox"/> the person	<input checked="" type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence
<b>Name and Address</b> INCYTE GENOMICS, INC. 3160 Porter Drive Palo Alto, CA 94304 United States of America	<b>State of Nationality</b> US
	<b>State of Residence</b> US
	<b>Telephone No.</b>
	<b>Facsimile No.</b>
<b>Teleprinter No.</b>	
3. Further observations, if necessary: <b>Please also note the change of agent address, as in the box above.</b>	
4. A copy of this notification has been sent to:	
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	<b>Authorized officer</b> Jean-Marie McAdams Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

BILLINGS, Lucy, J.  
Incyte Pharmaceuticals, Inc.  
3174 Porter Drive  
Palo Alto, CA 94304  
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 24 July 2000 (24.07.00)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference PF-0590 PCT	
International application No. PCT/US99/22082	International filing date (day/month/year) 23 September 1999 (23.09.99)
International publication date (day/month/year) 06 April 2000 (06.04.00)	Priority date (day/month/year) 25 September 1998 (25.09.98)
Applicant INCYTE PHARMACEUTICALS, INC. et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
25 Sept 1998 (25.09.98)	60/155,215	US	17 July 2000 (17.07.00)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. (41-22) 740.14.35	Authorized officer  Jean-Marie McAdams  Telephone No. (41-22) 338.83.38
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>7</sup> : <b>C12N 15/12, C07K 14/705, 16/28, A61K 38/17</b></p>	<b>A3</b>	<p>(11) International Publication Number: <b>WO 00/18915</b></p> <p>(43) International Publication Date: 6 April 2000 (06.04.00)</p>																																																												
<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>(21) International Application Number: <b>PCT/US99/22082</b></p> <p>(22) International Filing Date: 23 September 1999 (23.09.99)</p> <p>(30) Priority Data:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">60/155,215</td> <td style="width: 33%;">25 September 1998 (25.09.98)</td> <td style="width: 33%;">US</td> </tr> <tr> <td>60/155,251</td> <td>13 October 1998 (13.10.98)</td> <td>US</td> </tr> <tr> <td>60/172,228</td> <td>4 May 1999 (04.05.99)</td> <td>US</td> </tr> </table> <p>(63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Applications</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">US</td> <td style="width: 33%;">60/155,251 (CIP)</td> <td style="width: 33%;"></td> </tr> <tr> <td>Filed on</td> <td>13 October 1998 (13.10.98)</td> <td></td> </tr> <tr> <td>US</td> <td>60/172,228 (CIP)</td> <td></td> </tr> <tr> <td>Filed on</td> <td>4 May 1999 (04.05.99)</td> <td></td> </tr> <tr> <td>US</td> <td>60/155,215 (CIP)</td> <td></td> </tr> <tr> <td>Filed on</td> <td>25 September 1998 (25.09.98)</td> <td></td> </tr> </table> <p>(71) Applicant (for all designated States except US): <b>INCYTE PHARMACEUTICALS, INC.</b> [US/US]; 3174 Porter Drive, Palo Alto, CA 94304 (US).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): <b>YUE, Henry</b> [US/US]; 826 Lois Avenue, Sunnyvale, CA 94087 (US). <b>LAL, Preeti</b></p> </div> <div style="width: 48%;"> <p>[IN/US]; 2382 Lass Drive, Santa Clara, CA 9054 (US). <b>CORLEY, Neil, C.</b> [US/US]; 1240 Dale Avenue #30, Mountain View, CA 94040 (US). <b>GUEGLER, Karl, J.</b> [CH/US]; 1048 Oakland Avenue, Menlo Park, CA 94025 (US). <b>BAUGHN, Mariah, R.</b> [US/US]; 14244 Santiago Road, San Leandro, CA 94577 (US). <b>LU, Aina, D.</b> [US/US]; 55 Park Belmont Place, San Jose, CA 95136 (US). <b>TANG, Y., Tom</b> [CN/US]; 4230 Ranwick Court, San Jose, CA 95118 (US).</p> <p>(74) Agents: <b>BILLINGS, Lucy, J. et al.</b>; Incyte Pharmaceuticals, Inc., 3174 Porter Drive, Palo Alto, CA 94304 (US).</p> <p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> With international search report.</p> <p>(88) Date of publication of the international search report: 27 July 2000 (27.07.00)</p> </div> </div>			60/155,215	25 September 1998 (25.09.98)	US	60/155,251	13 October 1998 (13.10.98)	US	60/172,228	4 May 1999 (04.05.99)	US	US	60/155,251 (CIP)		Filed on	13 October 1998 (13.10.98)		US	60/172,228 (CIP)		Filed on	4 May 1999 (04.05.99)		US	60/155,215 (CIP)		Filed on	25 September 1998 (25.09.98)																																		
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<p>(54) Title: <b>MEMBRANE-ASSOCIATED ORGANIZATIONAL PROTEINS</b></p> <div style="margin-top: 20px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: right;">1</td> <td style="width: 75%; border: 1px solid black; padding: 2px;"><b>M S T A R E Q P I F S T R A H V F Q I D</b></td> <td style="width: 20%; text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">1</td> <td style="border: 1px solid black; padding: 2px;"><b>M G K M G E Q P I F S T R A H V F Q I D</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">21</td> <td style="border: 1px solid black; padding: 2px;"><b>P A T K R N W I P A G K H A L T V S Y F</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">21</td> <td style="border: 1px solid black; padding: 2px;"><b>P N T K K N W V P T S K H A V T V S Y F</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">41</td> <td style="border: 1px solid black; padding: 2px;"><b>Y D A T R N V Y R I I S I G G A K A I I</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">41</td> <td style="border: 1px solid black; padding: 2px;"><b>Y D S T R N V Y R I I S L D G S K A I I</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">61</td> <td style="border: 1px solid black; padding: 2px;"><b>N S T V T P N M T F T K T S Q K F G Q W</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">61</td> <td style="border: 1px solid black; padding: 2px;"><b>N S T I T P N M T F T K T S Q K F G Q W</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">81</td> <td style="border: 1px solid black; padding: 2px;"><b>A D S R A N T V Y G L G F A S E Q H L T</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">81</td> <td style="border: 1px solid black; padding: 2px;"><b>A D S R A N T V Y G L G F S S E H H L S</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">101</td> <td style="border: 1px solid black; padding: 2px;"><b>Q F A E K F Q E V K E A A R L A R E K S</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">101</td> <td style="border: 1px solid black; padding: 2px;"><b>K F A E K F Q E F K E A A R L A K E K S</b></td> <td style="text-align: left;">g1913909</td> </tr> <tr><td colspan="3"> </td></tr> <tr> <td style="text-align: right;">121</td> <td style="border: 1px solid black; padding: 2px;"><b>Q D G G E L T S P A L G L A S H Q V P P</b></td> <td style="text-align: left;">2687924</td> </tr> <tr> <td style="text-align: right;">121</td> <td style="border: 1px solid black; padding: 2px;"><b>Q E K M E L T S T - - - - -</b></td> <td style="text-align: left;">g1913909</td> </tr> </table> </div>			1	<b>M S T A R E Q P I F S T R A H V F Q I D</b>	2687924	1	<b>M G K M G E Q P I F S T R A H V F Q I D</b>	g1913909				21	<b>P A T K R N W I P A G K H A L T V S Y F</b>	2687924	21	<b>P N T K K N W V P T S K H A V T V S Y F</b>	g1913909				41	<b>Y D A T R N V Y R I I S I G G A K A I I</b>	2687924	41	<b>Y D S T R N V Y R I I S L D G S K A I I</b>	g1913909				61	<b>N S T V T P N M T F T K T S Q K F G Q W</b>	2687924	61	<b>N S T I T P N M T F T K T S Q K F G Q W</b>	g1913909				81	<b>A D S R A N T V Y G L G F A S E Q H L T</b>	2687924	81	<b>A D S R A N T V Y G L G F S S E H H L S</b>	g1913909				101	<b>Q F A E K F Q E V K E A A R L A R E K S</b>	2687924	101	<b>K F A E K F Q E F K E A A R L A K E K S</b>	g1913909				121	<b>Q D G G E L T S P A L G L A S H Q V P P</b>	2687924	121	<b>Q E K M E L T S T - - - - -</b>	g1913909
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21	<b>P N T K K N W V P T S K H A V T V S Y F</b>	g1913909																																																												
41	<b>Y D A T R N V Y R I I S I G G A K A I I</b>	2687924																																																												
41	<b>Y D S T R N V Y R I I S L D G S K A I I</b>	g1913909																																																												
61	<b>N S T V T P N M T F T K T S Q K F G Q W</b>	2687924																																																												
61	<b>N S T I T P N M T F T K T S Q K F G Q W</b>	g1913909																																																												
81	<b>A D S R A N T V Y G L G F A S E Q H L T</b>	2687924																																																												
81	<b>A D S R A N T V Y G L G F S S E H H L S</b>	g1913909																																																												
101	<b>Q F A E K F Q E V K E A A R L A R E K S</b>	2687924																																																												
101	<b>K F A E K F Q E F K E A A R L A K E K S</b>	g1913909																																																												
121	<b>Q D G G E L T S P A L G L A S H Q V P P</b>	2687924																																																												
121	<b>Q E K M E L T S T - - - - -</b>	g1913909																																																												
<p>(57) Abstract</p> <p>The invention provides human membrane-associated organizational proteins (HJNCT) and polynucleotides which identify and encode HJNCT. The invention also provides expression vectors, host cells, antibodies, agonists, and antagonists. The invention also provides methods for diagnosing, treating, or preventing disorders associated with expression of HJNCT.</p>																																																														

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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PF-0590 PCT</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 99/ 22082</b>	International filing date (day/month/year) <b>23/09/1999</b>	(Earliest) Priority Date (day/month/year) <b>25/09/1998</b>
Applicant  <b>INCYTE PHARMACEUTICALS, INC. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☐

It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒

contained in the international application in written form.

☒

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority in written form.

☐

furnished subsequently to this Authority in computer readable form.

☐

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,☒

the text is approved as submitted by the applicant.

☐

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,☒

the text is approved as submitted by the applicant.

☐

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒

as suggested by the applicant.

☐

because the applicant failed to suggest a figure.

☐

because this figure better characterizes the invention.

1A

☐

None of the figures.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.1

Although claims 19 and 20 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

## Continuation of Box I.1

Claims Nos.: 17,18

Claims 17,18 refer to an antagonist and agonist of the polypeptide without giving a true technical characterization. Moreover, no such compounds are defined in the application: in consequence, the scope of said claims is ambiguous and vague, and their subject matter is not sufficient disclosed and supported (Art. 5 and 6 PCT). No search can be carried out for such purely speculative claims whose wording is, in fact, a mere recitation of the results to be achieved.

## Box I Observations where unity of invention is lacking (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 17,18  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see additional sheet, subject 1.

## Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## 1. Claims: (1-16,19,20)-partially

A substantially purified polypeptide comprising an amino acid sequence selected from SEQ ID no.1, an isolated and purified nucleotide sequence comprising SEQ ID no. 5 and encoding said polypeptide, a method for detecting said polynucleotide, an expression vector comprising said polypeptide, a host cell comprising said vector, a method for producing said polypeptide, a pharmaceutical composition comprising said polypeptide;

## 2. Claims: (1-16,19,20)-partially

Idem as subject 1 but limited to HJNCT-2 and SEQ ID nos. 2 and 6.

## 3. Claims: (1-16,19,20)-partially

Idem as subject 1 but limited to HJNCT-3 and SEQ ID nos. 3 and 7.

## 4. Claims: (1-16,19,20)-partially

Idem as subject 1 but limited to HJNCT-4 and SEQ ID nos. 4 and 8.

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/705 C07K16/28 A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	J.E. LAMERDIN ET AL.: "R27090 3" EBI, 1 January 1998 (1998-01-01), XP002129737 Hinxton, Cambridge, UK TrEMBLrel. Accession no. 0014580; EMBL Accession no. AC002985; abstract	1-16
A ✓	WO 98 40407 A (WORLEY PAUL F ;BRAKEMAN PAUL R (US); UNIV JOHNS HOPKINS (US)) 17 September 1998 (1998-09-17) the whole document --- -/-	1-16, 19, 20

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## ° Special categories of cited documents :

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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

4 February 2000

Date of mailing of the international search report

16. 05. 2000

Name and mailing address of the ISA

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HORNIG H.

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	M. FURUSE ET AL.: "Claudin-1 and -2: Novel integral membrane proteins localizing at tight junctions with no sequence similarity to occludin" J. CELL BIOL., vol. 141, no. 7, 29 June 1998 (1998-06-29), pages 1539-1550, XP002129738 ROCKEFELLER UNIVERSITY PRESS, NY, US; cited in the application the whole document ---	1-16, 19, 20
A	J.J. GROOTJANS ET AL.: "Syntenin, a PDZ protein that binds syndecan cytoplasmic domains" PROC. NATL. ACAD. SCI., vol. 94, December 1997 (1997-12), pages 13683-13688, XP002084504 NATL. ACAD. SCI., WASHINGTON, DC, US; cited in the application the whole document ---	1-16, 19, 20
P, X	J.C. TU ET AL.: "Homer binds a novel proline-rich motif and links group 1 metabotropic glutamate receptors with IP3 receptors" NEURON, vol. 21, no. 4, October 1998 (1998-10), pages 717-726, XP000857914 CELL PRESS, CAMBRIDGE, MA, USA Accession no. 095350; ---	1-16
P, A	B.XIAO ET AL.: "Homer regulates the association of group 1 metabotropic glutamate receptors with multivalent complexes of homer-related, synaptic proteins" NEURON, vol. 21, no. 4, October 1998 (1998-10), pages 707-716, XP000857915 CELL PRESS, CAMBRIDGE, MA, USA the whole document -----	

### Information on patent family members

PCT/US 99/22082

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3	XT/	2

Total number of pages: 7

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